AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of all claims in the application.

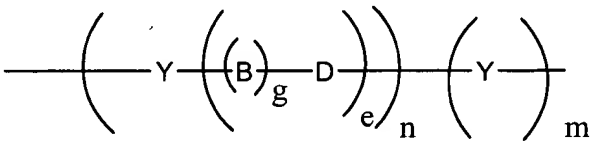
Claims 1-46: **(Canceled)**

47. **(Previously presented)** A conductive oligomer comprising an ethyl-pyridine protected sulfur atom.

48. **(Previously presented)** A conductive oligomer comprising a trimethylsilylethyl protected sulfur atom.

Claims 49-56: **(Canceled)**

57. **(Previously presented)** A composition comprising a conductive oligomer covalently attached to a CPG (controlled pore glass)-nucleoside, wherein said conductive oligomer has the formula:



wherein

Y is an aromatic group;

n is an integer from 1 to 50;

g is either 1 or zero;

e is an integer from zero to 10;and

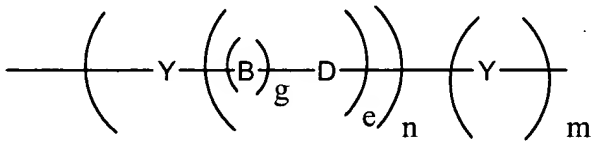
m is zero or 1;

wherein when g is 1, B-D is selected from acetylene, alkene, substituted alkene, amide, azo, esters, thioesters, -CH=N-, -CR=N-, -N=CH- and -N=CR-, -SiH=SiH-, -

SiR=SiH-, -SiR=SiH-, and -SiR=SiR-, -SiH=CH-, -SiR=CH-, -SiH=CR-, -SiR=CR-, -CH=SiH-, -CR=SiH-, -CH=SiR-, and -CR=SiR-, wherein R is a substitution group; and wherein when g is zero, e is 1 and D is carbonyl or a moiety comprising oxygen, sulfur, nitrogen or phosphorus.

Claims 58-61: **(Canceled)**

62. **(Previously presented)** A composition comprising a phosphoramidite nucleoside covalently attached to a conductive oligomer, said phosphoramidite nucleoside further comprising a covalently attached metallocene ligand, wherein said conductive oligomer has the formula:



wherein

Y is an aromatic group;

n is an integer from 1 to 50;

g is either 1 or zero;

e is an integer from zero to 10; and

m is zero or 1;

wherein when g is 1, B-D is selected from acetylene, alkene, substituted alkene, amide, azo, esters, thioesters, -CH=N-, -CR=N-, -N=CH- and -N=CR-, -SiH=SiH-, -SiR=SiH-, -SiR=SiH-, and -SiR=SiR-, -SiH=CH-, -SiR=CH-, -SiH=CR-, -SiR=CR-, -CH=SiH-, -CR=SiH-, -CH=SiR-, and -CR=SiR-, wherein R is a substitution group; and

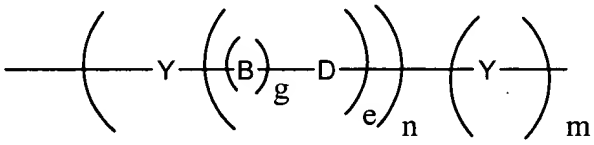
wherein when g is zero, e is 1 and D is carbonyl or a moiety comprising oxygen, sulfur, nitrogen or phosphorus.

63. **(Previously presented)** A composition according to claim 62 wherein said nucleoside comprises a ribose and said metallocene is covalently attached to the 2' position of said ribose.

64. **(Previously presented)** A composition according to claim 62 wherein said metallocene is covalently attached to the base of said nucleoside.

65. **(Previously presented)** A composition according to claim 62 wherein said metallocene is ferrocene.

66. **(Previously presented)** A composition comprising a deoxynucleotide triphosphate covalently attached to a conductive oligomer, said deoxynucleotide triphosphate further comprising a covalently attached metallocene ligand, wherein said conductive oligomer has the formula:



wherein

Y is an aromatic group;

n is an integer from 1 to 50;

g is either 1 or zero;

e is an integer from zero to 10;and

m is zero or 1;

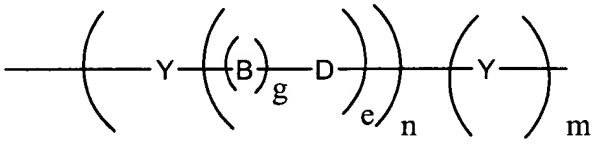
wherein when g is 1, B-D is selected from acetylene, alkene, substituted alkene, amide, azo, esters, thioesters, -CH=N-, -CR=N-, -N=CH- and -N=CR-, -SiH=SiH-, -SiR=SiH-, -SiR=SiH-, and -SiR=SiR-, -SiH=CH-, -SiR=CH-, -SiH=CR-, -SiR=CR-, -CH=SiH-, -CR=SiH-, -CH=SiR-, and -CR=SiR-, wherein R is a substitution group; and wherein when g is zero, e is 1 and D is carbonyl or a moiety comprising oxygen, sulfur, nitrogen or phosphorus.

67. **(Previously presented)** A composition according to claim 66 wherein said metallocene is ferrocene.

Claims 68-71: **(Canceled)**

72. **(Previously presented)** An electrode comprising:

a) a monolayer comprising a passivation agent layer comprising conductive oligomers, wherein said conductive oligomer having the formula:



wherein

Y is an aromatic group;

n is an integer from 1 to 50;

g is either 1 or zero;

e is an integer from zero to 10;and

m is zero or 1;

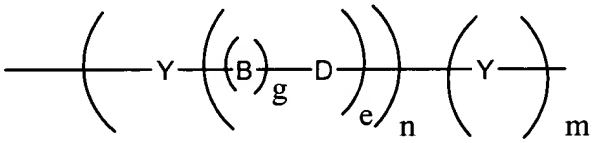
wherein when g is 1, B-D is selected from acetylene, alkene, substituted alkene, amide, azo, esters, thioesters, -CH=N-, -CR=N-, -N=CH- and -N=CR-, -SiH=SiH-, -

SiR=SiH-, -SiR=SiH-, and -SiR=SiR-, -SiH=CH-, -SiR=CH-, -SiH=CR-, -SiR=CR-, -CH=SiH-, -CR=SiH-, -CH=SiR-, and -CR=SiR-, wherein R is a substitution group; and wherein when g is zero, e is 1 and D is carbonyl or a moiety comprising oxygen, sulfur, nitrogen or phosphorus; and,

b) at least one nucleic acid covalently attached to said electrode with a spacer, wherein said spacer is an insulator.

73. **(Previously presented)** An electrode comprising:

a) a monolayer comprising a passivation agent layer comprising conductive oligomers and insulators, wherein said conductive oligomer having the formula:



wherein

Y is an aromatic group;

n is an integer from 1 to 50;

g is either 1 or zero;

e is an integer from zero to 10;and

m is zero or 1;

wherein when g is 1, B-D is selected from acetylene, alkene, substituted alkene, amide, azo, esters, thioesters, -CH=N-, -CR=N-, -N=CH- and -N=CR-, -SiH=SiH-, -SiR=SiH-, -SiR=SiH-, and -SiR=SiR-, -SiH=CH-, -SiR=CH-, -SiH=CR-, -SiR=CR-, -CH=SiH-, -CR=SiH-, -CH=SiR-, and -CR=SiR-, wherein R is a substitution group; and

wherein when g is zero, e is 1 and D is carbonyl or a moiety comprising oxygen, sulfur, nitrogen or phosphorus; and,

b) at least one nucleic acid covalently attached to said electrode with a spacer.